Broadband Phone Services

The Telephone Meets The Internet

Online addicts used to want an extra phone line to access the Internet. Today, the Internet can replace your telephone entirely. With a broadband phone service, you can make and receive calls using a phone without any assistance from your Baby Bell. Instead, the phone plugs into your Internet connection.

You need two things to turn your broadband connection into a personal phone line: a subscription to an Internet telephone service and a compatible phone. You can use a special SIP (Session Initiation Protocol) phone or regular phone plugged into a VoIP (Voice over IP) gateway. A SIP phone resembles a traditional phone but has a USB connector to plug into your computer or a 10Base-T connector to plug into your router. A VoIP gateway connects between your router and standard phone. This is convenient if you want to use a cordless phone or your light-up Hello Kitty model. Some gateways have two ports to which you might connect a phone and fax machine. Some services claim to work with fax; others don't guarantee success. (Faxing worked with all the services I tested.)

You Make The Call

Once connected, broadband phone services work like a regular phone: Place a call, and you'll hear a dial tone. When someone wants to call you, she can use any phone to dial your number, and your phone rings. A houseguest who wants to use your phone probably won't even know it's not a POTS (Plain Old Telephone Service) line. The only caveat is that some services require dialing 11 digits (1+area code+phone number) even if the destination phone number is in the same area code.

Each service I tested assigned a phone number for incoming calls, letting me choose the phone number's area code and prefix. Before choosing a service, make sure it offers phone numbers in the area you want. The number doesn't necessarily have to be in your physical area code, though; you can get a New York or San Francisco number, for example, which rings to your broadband phone wherever it is.

With the services I tested, phone numbers were tied to the SIP phone or VoIP gateway, which you'll need to purchase. You can plug the hardware into any broadband Internet connection and make/receive calls within a few minutes. Thus, you can take your phone (and phone number) with you.

The quality of calls for the seven services I tested ranged from fair to excellent. The best calls were indistinguishable from a good local connection. Services with imperfect voice quality usually sounded like a digital mobile phone, with slight glitches that didn't significantly detract from the conversation. A few services occasionally suffered from latency, which can lead to awkward pauses and both parties speaking at the same time.

The services were loaded with features that old-school phone companies charge extra for, such as call waiting, caller ID, three-way calling, call forwarding, and voicemail. Some offer features your phone company can't match, such as listening to voicemail on the Web and logging online calls you've placed, answered, and missed.

If you replace your traditional phone line with a broadband phone, use a service that supports 911. When you call 911 from a traditional phone, the phone company's Enhanced 911 service sends your address to a dispatcher's computer screen. Broadband phone services work differently. Some send a hard-coded address (which you provide the company) to the dispatcher. If you move the phone to another location and dial 911, an incorrect address will display. Other services don't support Enhanced 911. You may be connected to a local dispatcher, but he won't automatically know your location. If you're choking on a chicken bone, this could prove fatal. Also consider that traditional phone lines work when the power is out, but broadband services require power and a stable Internet connection.

For this roundup I tested using the VoIP gateway the respective service supplied. I connected each gateway to a cable modem through a home firewall/router. (The firewall was never an issue; I was able to make/receive calls with each service without opening any ports.) I made several U.S. calls and one to Germany with each service. While on the phone, I simultaneously used the broadband connection for other tasks, such as downloading large files and videoconferencing. These other online activities never noticeably affected call quality.

Chatting At The Computer

The services in this roundup rely on SIP (Session Initiation Protocol), a signaling protocol for Internet telephony, conferencing, and similar applications. (See www.faqs.org/rfcs/rfc2543.html for more on SIP.) SIP was developed in 1999, but Internet telephone services have really made many Internet users aware of it.

Even before SIP, Internet users were enjoying free long distance voice communication via programs such as Skype (www.skype.com) and AOL Instant Messenger (www.aim.com). The SIP services reviewed here aren't free, but their ability to connect to anyone with a standard phone is an important advantage over computer-based chat software. The people you talk with don't need a broadband connection or even a computer.

SIP-based services won't kill PC chat software. After all, many of the software choices are free and some include videoconferencing. But SIP phones will take toll-free Internet-enabled chatting from the realm of geeks to anyone who can use a phone. ▲

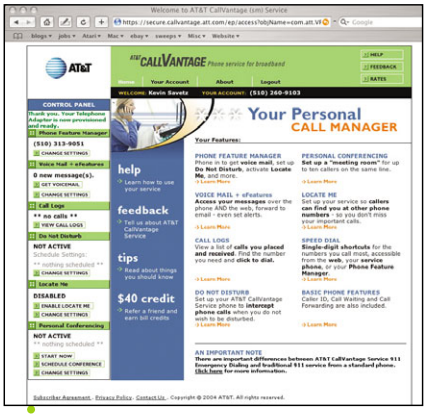
CPU Ranking: 0 = Absolutely Worthless 2.5 = Absolutely Average 5 = Absolutely Perfect

AT&T CallVantage

Maybe some traditional long distance providers are worried about Internet competition, but others are jumping onboard. AT&T's CallVantage has features and drawbacks that stem from AT&T's position as a major long-distance provider.

U.S. calls were perfectly clear with no noticeable latency. I suspect that's because calls spend a relatively short time bouncing around the Web before shifting to AT&T's traditional long-distance network. My call to Germany was a different story. My German friend called it the worst connection of the seven services, complaining of static when I wasn't speaking. His voice was perfectly clear to me, but when he wasn't talking, there was complete silence; I couldn't hear any background noise, which was disconcerting. This was one of two services, however, in which my caller ID information was received in Germany.

Setup was a hassle. Every other service let me plug the VoIP gateway into my Linksys router, but CallVantage would only work when the VoIP gateway was connected directly to the cable modem. I had to rewire the network, move my firewall rules to the VoIP gateway, and reconfigure the router. My FTP client also stopped working in this configuration. This might not be much of a problem if your VoIP gateway will stay put, but it makes it difficult or impossible to take your phone number with you on a trip.



CallVantage
$34.95
AT&T
www.usa.att.com/callvantage

CallVantage does have oodles of extras and offers local phone numbers in a large number of markets. At press time, phone numbers were available in 34 markets in nine states. By July, the service should be available in 71 markets in 21 states. You can also transfer your existing phone number to CallVantage, shutting down your POTS line in exchange for broadband.

Features include caller ID, call waiting, call forwarding, group conferencing with up to nine people, Locate Me for incoming calls, an online phone book, voicemail, and the ability to listen to voicemail on the phone or the Web. Unlimited nationwide calling is $34.99 a month, plus federal and state taxes. (Because AT&T is a traditional, taxed phone company, CallVantage does include taxes where some other services don't.) With a one-year contract, the $30 service activation fee and $60 VoIP adapter were included at no extra cost, a promotion that may still be available as you read this.

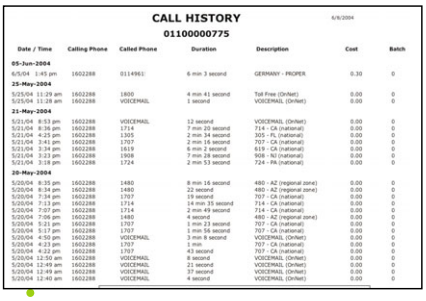
Broadvox Direct

With a broad array of extras and online account management, Broadvox seemed to have the makings of a contender, until nagging problems cropped up.

Voice quality was generally good but with noticeable latency with some calls. On one call I placed, there was no dial tone, but a later attempt let me place the call. My German associate and I agreed that the overseas quality was very good.

Receiving calls was more troublesome. Broadvox lets you set up phone numbers in different cities, which it calls Friends and Family numbers. When I set up a secondary number, it never worked. Callers to that number heard, "The subscriber you have dialed is not in service." Even calls to the primary number were dicey, with apparent unreliable routing. Calls sometimes ended up with a fast busy signal, fax tones, or someone else entirely. Sometimes my unanswered phone would continue to ring even after the caller hung up.

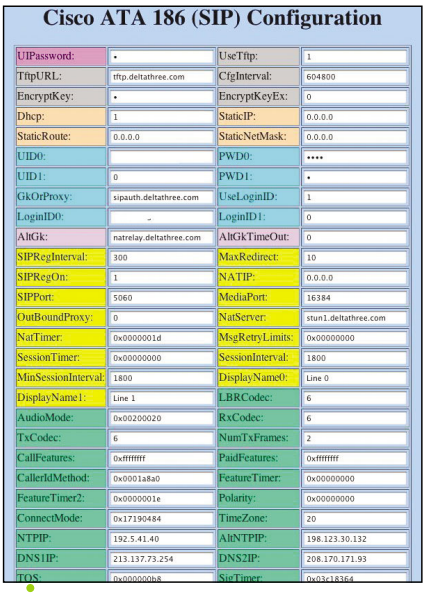
Service plans range from $29.95 per month for unlimited U.S. and Canadian calls to $12.95 per month for 500 minutes, with additional usage at 2.9 cents per minute. In addition to the usual features—voicemail, call waiting, caller ID, call forwarding, etc.—Broadvox includes Find Me, Follow Me, online call logs, and the ability to track missed calls on the Web. This all sounds good, but if you can't reliably receive incoming calls, the features are irrelevant.



Broadvox Direct
$29.95
Broadvox
www.broadvoxdirect.com

iConnectHere Broadband Phone

While the VoIP gateways for all other services arrived preconfigured (or configured themselves the first time I connected



Broadband Phone
$10.95
iConnectHere
www.iconnecthere.com

CPU Ranking: 0 = Absolutely Worthless ... 2.5 = Absolutely Average ... 5 = Absolutely Perfect

them to the network), iConnectHere made me configure the gateway manually, connecting to it with a Web browser to adjust parameters. It was fun for a geek like me, but I wouldn't expect a novice to do it, and it certainly diminishes the easy-to-use-as-a-telephone advantage.

The quality was very good for stateside calls, with no noticeable latency. Some people I spoke with thought the call could be from a traditional phone. On my end, however, the calls sounded like a digital mobile phone. In addition, calls to Germany wouldn't go through, returning a "Your call to this destination could not be completed" message or dead air. When searching for help at the company's Web site, I only received returned server errors.

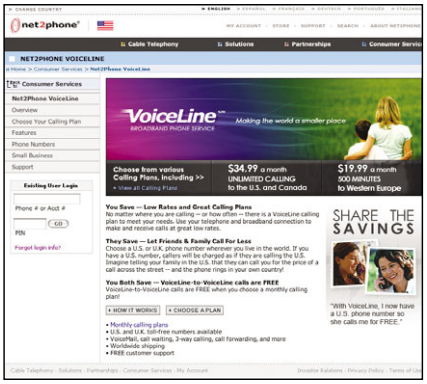
iConnectHere includes a handful of calling features, although fewer than some other services. Features include voicemail, caller ID, and the ability to forward incoming calls to any other phone number. The company offers several calling plans, including a per-minute plan with no flat monthly charge. Under that plan, calls to the continental United States are 2.3 cents per minute. For $10.95 per month, you get 1,000 minutes to North American destinations. This was the only service that didn't offer an unlimited use plan.

Net2Phone VoiceLine

Net2Phone's VoiceLine service isn't the cheapest, but it was reliable and feature-filled. Call quality for stateside and international calls was generally quite good, clear, and loud. During one call, I could hear my own voice echo, which was distracting but didn't reoccur when I called again. VoiceLine also transmitted my caller ID information to Germany.

Calling features include voicemail, which you can retrieve on the phone or the Web; call waiting; caller ID; call return (also known as *69); three-way calling; and call blocking, which lets your line automatically reject anonymous callers (or calls from your ex). You can manage these features via the Web or use the phone's touch-tone keys.

At $34.99 per month for unlimited calling to the United States and Canada, VoiceLine is tied as the most expensive service here. For $14.99 a month, you can get 500 minutes of outgoing calls or 300 minutes for $9.99. Local phone numbers are only available in 11 area codes in five states, which is sparse compared to some services, but U.S. and UK toll-free numbers are also available for an extra fee.



VoiceLine
$34.99
Net2Phone
www.net2phone.com

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Packet8

Packet8 was one of the least expensive services I tested to offer unlimited calling. For $19.95 a month, you get unlimited calling in the United States and Canada. For $79.90 a month you can get unlimited calls to Europe and Asia. Features include voicemail, call waiting, call forwarding, three-way conferencing, and caller ID. This is a small feature set compared to other services, but it's probably enough for most people. There are virtually no features on the Web site, however.

The quality of U.S. calls was fair, akin to digital cellular service. One call had latency, which led to awkward pauses in the conversation and participants talking over each other. On another call I could hear fine but the other participant asked me to repeat myself several times. On yet another call, dropouts meant I missed a few words here and there. I also couldn't complete my call to Germany, only getting a fast busy signal instead.

Although its features are sparse and voice quality is far from perfect, Packet8's low monthly fee could make it a good choice for chatterboxes on a budget.

Packet8
$19.95
Packet8
www.packet8.net

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voiceglo

Compared to the other services, voiceglo was disappointing, primarily because calls were unexpectedly cut short. Call quality to U.S. destinations was fair. Voices tended to sound fuzzy, and one person I spoke with noticed the start of each sentence being slightly cut off. An unpleasant surprise came 51 minutes into one conversation when the call inexplicably ended with a busy signal. A later conversation was also cut off after 10 minutes. My five-minute call to Germany sounded great, however, with low latency.

voiceglo offers two calling plans for residential users. A $19.99 Regional plan

voiceglo
$19.99 (Regional)
voiceglo
www.voiceglo.com

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Dial In On A Service

The seven broadband phone services tested in this roundup have numerous similarities, but also many differences. Here is how the services compare.

Service	Pros	Cons	Cost/month for unlimited U.S. and Canadian calls	URL	CPUs
AT&T CallVantage	Excellent voice quality for U.S. calls	Poor quality for international calls; difficult setup; most expensive	$34.99 (U.S. only; Canada adds 5 cents per minute)	www.usa.att.com /callvantage	3
Broadvox Direct	Good voice quality	Incoming call delivery unreliable	$29.95	www.broadvoxdirect.com	2
iConnectHere Broadband Phone	Good voice quality	Manual configuration	No unlimited use plan; $39.95 for 3,000 minutes	www.iconnecthere.com	2.5
Net2Phone VoiceLine	Very good voice quality	Numbers available in only 11 area codes	$34.99	www.net2phone.com	4
Packet8	Least expensive service	Fair voice quality; few extras	$19.95	www.packet8.net	2.5
voiceglo	Nothing special	Calls cut off without warning; fair voice quality	$29.95	www.voiceglo.com	2
Vonage	Top-notch voice quality; many features	No major flaws	$29.99	www.vonage.com	5

provides unlimited local minutes and long distance U.S. and Canadian calls for 3.9 cents per minute. I don't see any benefit here, though, as plenty of traditional long distance carriers charge less. (See www.telcompare.com for a list.) voiceglo's $29.99 Unlimited plan with unlimited U.S. and Canadian minutes makes more sense.

voiceglo's features are good but don't rock the house with extras. Included is voicemail, caller ID, call waiting, call forwarding, speed dial, and reviewing call logs online. When I signed up, I didn't receive a password to check logs or do online account maintenance. I used the site's Forgot Your Password? function, but when it arrived 24 hours later, it didn't work. I never could log in to manage my account.

Vonage

Partly due to aggressive marketing, Vonage is perhaps the company most associated with broadband phone calling. Its reputation is well-deserved, as it offers excellent call quality and many features for a fair price.

The audio quality of domestic and overseas calls was consistently top-notch, without any lag or digital artifacting. No one I spoke with guessed that I wasn't using a regular phone. Caller ID information did not make it to my German friend, but that's a minor issue.

Vonage offers several plans for residential and business users. The $29.99 per month Premium Unlimited plan includes unlimited U.S. and Canadian calls. The long list of features includes voicemail, call waiting, call forwarding, repeat dialing, caller ID, three-way calling, and call transfer. You can also get a new phone number in the city of your choice or transfer your existing POTS number to Vonage.

Vonage
$29.99
Vonage
www.vonage.com

Even better, Vonage offers virtual phone numbers, which let you have phone numbers in more than one city, all of which ring your phone. So, you could have a main phone number in California and a virtual phone number in New York, letting friends and associates in both cities call you with a local call. Each virtual number costs $4.99 per month. There's also an unusual Bandwidth Saver feature that lets you use less bandwidth (as little as 30Kbps) in exchange for reduced voice quality.

It's For You

A broadband phone service can be quite useful as a second home line, business line, or even as a replacement for your current phone service. At $20 to $35 per month for unlimited U.S. calls, these services can save you money if you make a lot of long distance calls. The services do charge extra for international calls, although typically less than traditional long-distance carriers. When you factor in the basic cost of a phone line and any extras you pay for, broadband phone services can be a bargain. ▲

by Kevin Savetz

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